

SAMPLE QUESTION PAPER—A

1. (c) The algebraic sum of deviation of a set of n values from arithmetic mean is 0.
2. (c) The range of simple correlation coefficient is minus one to plus one .
3. (c) The coefficient of variation is :

$$CV = \frac{\sigma}{\bar{x}} \times 100$$

$$\sigma = \sqrt{\Sigma f^2 / N}$$

$$= \sqrt{1090} / 100$$

$$= \sqrt{10.9} = 3.3$$

$$\bar{x} = 10$$

$$C.V. = 3.3 / 10 \times 100$$

$$= 33\%$$

4. (b) Ayurveda, Yoga, Unani, Sidha, Naturopathy and Homeopathy all these combined to form Ayush.
5. (a) The main objective in relation to electricity under 11th five year plan is to provide electricity to all the village by 2012.
6. A good measure of dispersion should possess the following characteristics :-
 - (i) It should be easy to calculate.
 - (ii) It should be simple to understand.
 - (iii) It should be rigidly defined.
 - (iv) It should be suited to further algebraic treatment.
 - (v) It should be based on all the observations of the series.
7. Figures about unemployment in India are estimated on the decennial basis under the supervisions of ministry of statistics. But the data collected are suffered on the basis of false or incomplete information being taken across business sectors, regions and communities.

1 × 3 (Any three)

Students	Ranks in Maths R_1	Rank in Economic R_2	$D (R_1 - R_2)$	D^2
A	1	4	-3	9
B	2	2	0	0
C	3	1	2	1
D	4	3	1	4
E	5	5	0	0
N = 5				$\Sigma D^2 = 14$

$$rk = 1 - \frac{6\Sigma D^2}{N(N^2 - 1)}$$

$$= 1 - \frac{6 \times 14}{5(25 - 1)}$$

$$= 1 - \frac{6 \times 14}{5 \times 24}$$

$$= 1 - \frac{84}{120}$$

$$= 0.3$$

9. **Bhoodan Movement** : This movement was launched by Vinoba Bhave in 1951. It is one of the great events in the land reforms of independent India. An appeal is made to the people for land donation by Bhoodan Movement. In this way, the acquired land is distributed amongst the landless farmers.

The major objectives of Bhoodan Movement are as follows :

- (i) It will decrease the gap between landlords and landless farmers.
- (ii) In this movement, many programmes like 'gramdan', 'shramdan' and 'Jeevandan' have been started.
- (iii) Landless farmers will be able to get some piece of land from this movement.
- (iv) In this movement, power is not used as it was a bloodless revolution. $\frac{1}{2} \times 4 = 2$

10. (i) The Planning Commission in India was established on March 15, 1950.

In the composition of Planning Commission, prime minister of India, chief minister of all the states and the members of the planning commission are included.

- (ii) Planning Commission formulates economic planning but the national development council finally approves the draft of plan in India.
- (iii) National development council is composed by the representatives of both the central and state governments. **1 × 3**

11. (i) Agriculture sector is adversely affected by reform process. It could not get much benefit, because the sector is already within the limit of private sector and liberalisation.

- (ii) In this agriculture sector, imports have become possible due to globalisation. As a result this sector has to face many challenges.

- (iii) The growth rate of this sector lies in between 3 to 4% . **1 × 3**

12. Environment performs four functions of supplying resources. These are :

- (i) Assimilating wastes
- (ii) Sustaining life by providing genetic
- (iii) Biodiversity
- (iv) Providing aesthetic services. **1**

The environment has been able to perform its functions without any interruption till recent past as the resource extraction was not above the rate of regeneration of the resource and the wastes generated were within the assimilating capacity of the environment. But today, environment fails to perform its main and vital function of life sustenance resulting in an environmental crisis. **1**

The affluent consumption and production standards and the rising population of the developing countries have placed a huge stress on the environment in terms of its first two functions. Development activities in India have put immense pressure on its finite natural resources, besides creating impact on human health and well-being. The current environmental crisis manifests itself in global warming, land degradation, ozone depletion, falling of water levels, loss of biodiversity and health problems due to pollution. The remedy for this crisis is only sustainable development. **1**

13. (i) Educated person can contribute to economic growth more than that of uneducated person. Infact, skills of an educated person are more. Education changes the outlook of a person. Educated labour force adopts new technologies easily. It increases the production, as a result, higher rate of economic growth is achieved.

- (ii) Investment in health keeps labourers healthy and enables them to work for a long period. A sick person always abstains from work and there is loss of productivity. But healthy person contributes in production resulting higher rate of economic growth.

In this way, both education and health increases the income capacity of a person. It creates human capital formation which further leads to higher economic growth rate. **[3]**

14. At the time of Independence, Indian economic conditions were very poor and weak. There were neither sufficient investment credibility. In the fact of such poor economic condition, it was only the public sectors that needed to take the initiative. The following are the reasons that explains the driving role of the public sector in the industrial development :

- (i) **Need of heavy investment :** There was a need of heavy investment for industrial development. It was very difficult for the private sector to invest such a big amount. Further, the risks involved in these projects were also very high and also these projects had long gestation period. Thus, the government played the leading role to provide the basic framework of heavy industries. **1½**

- (ii) **Low level of demand :** At the time of Independence, the majority of population was poor and had low level of income. Consequently, there was low level of demand and so there was no inputs for any private sector to undertake investment in order to fulfill these demands. Thus, India was trapped into a vicious circle of low demand. The only way to encourage demand was by public sector investments. **1½**

15. (i) Although Indian agricultural production increased substantially that enabled India to attain the status of self-sufficiency in food grains but this increase is substantial only in comparison to food grain producing in the past. Further, India failed to achieve structural transformation associated with the agricultural revolution and development. **1**
- (ii) Industrial and service sector failed to generate significant employment opportunities in order to attract and absorb excess agricultural labour. The agricultural contribution to GDP has fallen from 51% in 1960-61 to 44% in 1970-71, on the other hand, the share of industry and service sector 23% and from 30% to 33%, agriculture decreased merely from 67.90% in 1960 to 64.9% in 1990. **1**
- (iii) The industrial and service sector growth was not very significant and hence, failed to employ and attract surplus labour from agricultural sector. **1**
- (iv) This may be because of the flaws in the economic policies that became the bottleneck for the growth of secondary and tertiary sector. **1**
16. As far as sector wise contribution to growth is concerned, in 2008, contribution of agriculture to GDP in China was 10% while in India it was 19%. On the other hand manufacturing contributes the highest to GDP in China at 47%, whereas in India service sector contributes the highest at around 55%.
- In the last two decades, the growth of agriculture sector has declined in both the countries. In the industrial sector, China has maintained a double-digit growth rate whereas for India, industrial growth rate has declined. In the case of service sector, China has been able to raise its rate of growth in 2008-10 while service sector growth in India has stagnated. China's growth is mainly contributed by the manufacturing sector and India's growth by service sector. **2 + 2**
17. (i) The bonafide motive of British behind the infrastructural development was only to serve their colonial interest. There was infrastructural developments in the fields of transport and communication.
- (ii) Railways were introduced and developed for the transportation of finished goods of British industries to the interiors of India. Railways assisted British industries to widen the market for their finished product.
- (iii) The Roads served the purpose of facilitating transportation of raw materials from different parts of country to ports and ports were developed for easy and fast exports and imports from Britain.
- (iv) Posts and telegraphs were developed to enhance the efficiency and effectiveness of the British administration. **1 x 4**
18. Rural development means improvement in the standard of living of rural people. It is a comprehensive term. Rural development key issues are as under :
- (i) Do they get minimum requirements of life ?
- (ii) What is the status of education ? Is it equal to national level ?
- (iii) Is the development of agriculture is just like other sectors ?
- (iv) What is the standard of living of the people living in rural areas ?
- (v) How much per capita income of the rural people is different from industrial and service sectors. **1 x 4 (Any four)**
19. The non-form areas of employment are essential with a view to raise income and exploring alternative avenues of sustainable livelihood besides agriculture. The following are the importance of non-farm employment opportunities in promoting rural diversification :
- (i) A substantial portion of Indian farming is dependent on the vagaries of monsoon, making it a risky affair to rely upon solely. Hence, non-farm employment opportunities are to be explored to enable the farmers to earn from alternative non-farm occupations. This will lessen the excess burden on agriculture by reducing disguised unemployment. **1**
- (ii) The Kharif season opens up ample opportunities for agricultural employment. However, due to lack of irrigation facilities, the farmers fail to get gainful employment opportunities during the Rabi season. Therefore, absence of opportunities in agricultural sector should be compensated in non-farm sectors. **1**
- (iii) Agriculture being overcrowded cannot further generate employment opportunities to the farmers. Therefore, the prospects of the non-farm sectors should be opened up in the rural areas to

provide job opportunities, thereby, diverting workforce from the already crowded agricultural sector. 1

- (iv) The non-farming sector has several segments that have dynamic linkages. Such linkages enhance the healthy growth of the rural areas.
- (v) The non-farm sector provides employment opportunities for the whole year as compared to the farming occupation. So, it helps to eradicate poverty from the rural areas. 1
- (vi) Most of the output of non-farm sectors acts as input for the large scale industries. For example, agro processing industries, food processing industries, leather industry, tourism, etc. This has two-fold benefits. First, the large scale industries can specialize in their final output by relying on the processed inputs from the non-farm sectors. Secondly, such dependence of the large scale industries provides impetus to the non-farm sectors reducing the urban-rural regional disparities. 1

20. It can be defined in two terms :

- (i) Absolute measures of dispersion.
- (ii) Relative measures of dispersion.

The measures of dispersion which are expressed in terms of the original units of a series are known as absolute measure. Whereas relative measures express the variability of data in terms of some relative value or percentage.

Various methods of computing dispersion are :

(i) Range : $R = L - S$

- (a) The range is simple to understand and easy to calculate because its value is determined by the two extreme items.
- (b) It is useful as a rough measure of variance.
- (c) Its value may be greatly changed if an extreme value (either lowest or highest) is withdrawn or a fresh value is added. It is a highly unstable measure of variation.
- (d) It gives no indication how the values within the two extremes are distributed. 1

(ii) Quartile Deviation :

- (a) The QD is simple to understand and easy to calculate.
- (b) As a rough measure of variation, it is superior to the range because it is not affected by extreme values.
- (c) It is not capable of algebraic manipulation.
- (d) It is mainly used in situations where extreme values are thought to be un-representative. 1

(iii) Mean Deviation :

Mean Deviation

$$MD = \frac{\sum |x - \bar{x}|}{n}$$

- (a) The MD is simple to understand and easy to interpret.
- (b) It is affected by the value of every observation.
- (c) It is less affected by absolute deviations than the standard deviations.
- (d) It is not suited for further mathematical treatment. It is, therefore, not as logical and convenient measure of dispersion as SD. 1

(iv) Standard Deviation :

- (a) The SD is affected by the value of every observation.
- (b) The process of squaring the deviations before adding avoids the algebraic fallacy of disregarding signs.
- (c) In general, it is less affected by fluctuations of sampling than the other measures of dispersion.
- (d) It has a definite mathematical meaning and is perfectly adaptable to algebraic treatment.
- (e) It has great practical utility in sampling and statistical inference.
- (f) The SD is the best general purpose measure of dispersion and should be employed in all cases where a high degree of accuracy is required. 1

21. Here, we are given the data in the form of less than cumulative frequency distribution. To compute mode, we shall arrange the data in the form of frequency distribution with continuous classes.

Table 1: Grouping Table

Marks (x)	No. of Students (f)	In Two's		In Three's		
	Column I	Column II	Column III	Column IV	Column V	Column VI
0 – 10	4	} 6	} 20	} 24	} 42	} 61
10 – 20	2					
20 – 30	18	} 40		} 43		
30– 40	22					
40 – 50	21	} 40	} 29	} 14	} 32	
50 – 60	19					
60 – 70	10	} 13	} 4			
70 – 80	3					
80 – 90	1					

Table 2 : Analysis Table

Column No.	0 – 10	10 – 20	20 – 30	30 – 40	40 – 50	50 – 60	60 – 70	70 – 80	80 – 90
I				4					
II			4	4	4	4			
III				4	4				
IV				4	4	4			
V					4	4	4		
VI			4	4	4				
Total	–	–	2	5	5	3	1	–	–

Clearly, it is a bi-modal series and mode is ill defined. So, mode in this case will be located with the help of formula :

Mode = 3 Median – 2 Mean

Calculation of Arithmetic Mean

Marks	No. of Students	Mid value	$d = m - A$	$d' = \frac{m - A}{C}$	fd'
x	f	m	(A = 45)	(C = 10)	
0 – 10	4	5	– 40	– 4	– 16
10 – 20	2	15	– 30	– 3	– 6
20 – 30	18	25	– 20	– 2	– 36
30 – 40	22	35	– 10	– 1	– 22
40 – 50	21	45 (A)	0	0	0
50 – 60	19	55	+ 10	+ 1	+ 19
60 – 70	10	65	+ 20	+ 2	+ 20
70 – 80	3	75	+ 30	+ 3	+ 9
80 – 90	1	85	+ 40	+ 4	+ 4
	$\Sigma f = 100$				$\Sigma fd' = -28$

$$\bar{X} = A + \frac{\Sigma fd'}{\Sigma f} \times C = 45 + \frac{-28}{100} = 42.2$$

2

Mean = 42.2

Calculation of Median

Marks	No. of students	c.f.
X	x	f
0 – 10	4	4
10 – 20	2	6
20 – 30	18	24
30 – 40	22	46 (c.f.)

(l_1) 40 – 50	21 (f)	AglaSem Schools
50 – 60	19	86
60 – 70	10	96
70 – 80	3	99
80 – 90	1	100
$N = \Sigma f = 100$		

$$Me = \frac{N}{2} = \frac{100}{2} = 50^{\text{th}}$$

50th item lies in the group 40 – 50

$$l_1 = 40, c.f. = 46, f = 21, i = 10$$

$$Me = l_1 + \frac{\frac{N}{2} - c.f.}{f} \times i$$

$$= 40 + \frac{50 - 46}{21} \times 10$$

$$\text{Median} = 41.9$$

$$\text{Mode} = 3 \text{ Median} - 2 \text{ mean}$$

$$\text{Mode} = 3(41.9) - 2(42.2)$$

$$= 125.7 - 84.4$$

$$= 41.3$$

$$\text{Mode} = 41.3$$

2

2

22. Various advantages are as follows :

- Easy availability of cheap labour :** As the wage rates in India are comparatively lower than that of in the developed countries, MNCs find it economically feasible to outsource their business in India. 1
- Reasonable degree of skills :** Indians have fairly reasonable degree of skills and techniques that need low training period and thus, low cost of training. 1
- Virgin market :** Indian has a virgin market for produced goods and services. This not only helps the MNCs to explore the wide domestic market of India but also conquer the international market as the cost of production in India is relatively cheaper. 1
- Lack of competitive competitors :** The most important for the MNCs in India is that they don't face stiff competition from the Indian domestic industries. This almost enables them to enjoy a monopoly status in the Indian market. 1
- Cheap and abundant availability of raw materials :** India is well enriched in natural resources. This ensures the MNCs cheap availability of raw material and undisturbed and perennial supply of raw materials. This enables proper and smooth operation of MNCs. 1
- Reasonable degree of infrastructural investment :** Indian government has invested heavily in the past two decades in the infrastructural sector. Various steps have been taken for connecting remote and rural areas to the metropolitan and other major cities. This has not only reduced the cost of production of the MNCs but also helped them operate efficiently and effectively. 1

23. Values involved are — Specific concern for poor, rehabilitation initiative and supportive culture.

Sector specific bank like NABARD (National Bank for Agricultural and Rural Development), though not enough cater to the needs of the rural credit, but has significantly changed the outlook of the rural India and more prominently the agricultural sector NABARD has catered to the farmers and rural poor to encourage agricultural activities ranging from farming to marketing, by providing easy, hassle free and cheap credit.

But issues like security or collateral requirements, lack of initiative encouragement habit of thrift (Savings), bad debts etc. are becoming the termite cells in the rural banking system which are calling for urgent revamp.

24. The various factors that led to the rapid growth in economic development in China are explained below.

- China introduced reforms in pahses in 1978. In the initial phase, reforms were initiated in agriculture, foreign trade and investment sectors.

- (ii) Commune lands were divided into small plots which were allocated to individual households for use and not ownership. They were allowed to keep all income from the land after paying stipulated taxes.
- (iii) In the later phase, reforms were initiated in the industrial sector, Private sector firms, and township and village enterprises, were allowed to produce goods. Enterprise owned by government (known as state Owned Enterprises – SOEs), were made to face competition at this stage to enhance their efficiency.
- (iv) Dual pricing was involved in reforms. Prices were fixed in two ways; farmers and industrial units were required to buy and sell fixed quantities of inputs and outputs on the basis of prices fixed by the government and the rest were purchased and sold at market prices.
- (v) Market mechanism gained strength over the years as the proportion of goods or inputs transacted in the market increased with rise in aggregate production.
- (vi) Special economic zones were set up in order to attract foreign investors.

1 × 6

25. Basis of Difference

1. Items to be studied
2. Suitability
3. Conclusion
4. Time
- 5 Nature of items
6. Verification
7. Nature of method
8. Number of enumerators
9. Expensive

Census Method

1. Under census method each and every unit of the universe is studied.
2. This method is suitable when the area of investigation is relatively small.
3. In this method, conclusions are drawn on the basis of whole universe.
4. It is more time consuming method .
5. Census method is particularly suitable where the items in the population have diverse characteristics.
6. Under census method the results of investigation is generally not possible.
7. It is an old method of investigation.
8. Census method requires a large number of enumerators.
9. It is more expensive.

Sample Method

1. Under sample method, only some of the items which represent the population are studied.
2. This method is suitable where the areas of investigation is wide.
3. In this method, conclusions are drawn on the basis of a sample.
4. It is less time consuming method.
5. Sampling method is particularly suitable when items in the population are homogeneous.
6. Under sampling method results can be verified by taking out an other sample.
7. It is a new and practicable method.
8. It does not require a large number of enumerators.
9. It is comparatively less expensive.

1 × 6 [Any six]



